O. Introduction. Pacŏh is a language of the Mon-Khmer family, spoken by perhaps 8.000 tribespeople in the Huế region of Central Việt Nam. Pacŏh is closely related to the Ta-oaih (Ta-ôi) language of Laos and may be mutually intelligible with some dialects of it. This paper presents the Pacŏh high mountain dialect. The Pacŏh Pahi, a low mountain dialect, is slightly different, partly because of proximity to Vietnamese.

In Việt Nam the Mon-Khmer languages generally have a large number of vowels (e.g. Brôu[2] is considered to have 41 vowel contrasts). Pacŏh does not have as many vowels as some but they are of particular interest because of their symmetrical patterning. The basic 12 vowel system becomes 24 because of short-long contrasts ; then 6 glided vowels are added, giving a total of 30 vowel contrasts.

Pacŏh consonants pattern symmetrically in that they can all occur in both word-initial and word-final positions. Analyses of languages of Southeast Asia have previously interpreted voiced stops as occurring only in word-initial or medial positions, but Pacŏh voiced stops have allophones in word-final position.

1. Phonemes

1.1. Vowel Phonemes. As shown in figure 1, each of

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[2] A paper on the 41 vowels of Brôu is being prepared for publication by John and Carolyn Miller and Richard Phillips. Brôu is a language in Quảng Trị, Việt Nam.

the basic twelve vowels has a short (marked ʹ) and long contrast. Each of the six vowels of the high and mid-tense categories has a glided counterpart.

Omitting the mid-tense category, the remaining nine basic vowels closely approximate the nine basic vowels of Vietnamese. The three high glided vowels and the short *â* and *á* vowels are also similar to those of Vietnamese. The Pahi dialect of Pacŏ́h, because of proximity to Vietnamese, has dropped the short and long counterparts of the mid-tense category, but the glides have been kept.

	front			central			back		
	short	*long*	*glide*	*short*	*long*	*glide*	*short*	*long*	*glide*
high	*í*	*i*	*ia*	*ứ*	*ư*	*ưa*	*ú*	*u*	*ua*
mid-tense	*ĕ́*	*ĕ*	*ĕa*	*ơ̆́*	*ơ̆*	*ơ̆a*	*ŏ́*	*ŏ*	*ŏa*
mid-lax	*ế*	*ê*		*â*	*ơ*		*ố*	*ô*	
low	*é*	*e*		*á*	*a*		*ó*	*o*	

Figure I. Chart of Vowel Phonemes

1.1.1. Vowel Descriptions

/i/ is a high front unrounded vowel [*i*]. /*í*/ is phonetically similar to /*i*/ but shorter; it occurs only before *q* and *h*. /*Í*/ is a neutralization of short /*í*/ and /*ĕ́*/ to [*i*] in positions other than preceding *q* and *h*. /*píq*/ [*pí ʔ*] 'to dig', /*pÍt*/ [*pıt*] 'to lose'. /*ia*/ is /*i*/ glided to a neutral central vowel.

The three glided vowels : *ia, ưa, ua* glide to schwa [*iᵊ, ïᵊ, uᵊ*].

/*ĕ*/ is a mid front tense unrounded vowel $\begin{bmatrix} \mathrm{e} \\ + \end{bmatrix}$. /*ĕ́*/ is phonetically similar to /*ĕ*/ but shorter. /*ĕa*/ is /*ĕ*/ glided to a neutral central vowel.

The three mid tense glided vowels *ĕa, ơ̆a, ŏa* phonetically glide to [*a*] because the neutral glide quality is conditioned by the tenseness of the vowel center [*ĕa*, *ơ̆a*, *ŏa*].

/*ê*/ is a mid front lax unrounded vowel [*e*]. /*ế*/ is phonetically similar to /*ê*/ but shorter; it occurs only before *q* and ***h*** and is neutralized with /*í*/ to /*Í*/ [*ı*] otherwise. /*pếq*/ [***pế*** ?] 'to carry', /*pết*/ or /*pít*/ = /*pÍt*/ [*pit*] 'to lose'.

/*e*/ is a low front unrounded vowel [ɛ]. /*é*/ is phonetically similar to /*e*/ but shorter.

/***ư***/ is a high central unrounded vowel [*ï*]. /***ứ***/ is phonetically similar to /*ư*/ but shorter. /*ưa*/ is /***ư***/ glided to a neutral central vowel.

/*ơ̆*/ is a mid central tense unrounded vowel $\begin{bmatrix} \partial \\ + \end{bmatrix}$ /*ơ̆́*/ is phonetically similar to /*ơ̆*/ but shorter. /*ơ̆a*/ is /*ŏ*/ glided to a neutral central vowel.

/*ơ*/ is a mid central lax unrounded vowel [ə]. /***â***/ is phonetically similar to /*ơ*/ but shorter.

/*a*/ is a low central unrounded vowel [*a*]. /*á*/ is phonetically similar to /*a*/ but shorter.

/*u*/ is a high back rounded vowel [*u*]. /*ú*/ is phonetically similar to /*u*/ but shorter. /*ua*/ is /*u*/ glided to a neutral central vowel.

/*ŏ*/ is a mid back tense rounded vowel $\left[\begin{smallmatrix} \text{o} \\ + \end{smallmatrix}\right]$. /*ắ*/ is phonetically similar to /*ŏ*/ but shorter. /*ŏa*/ is /*ŏ*/ glided to a neutral central vowel.

/*ô*/ is a mid back lax rounded vowel [*o*]. /*ố*/ is phonetically similar to /*ô*/ but shorter.

/*o*/ is a low back rounded vowel [*ɔ*]. /*ó*/ is phonetically similar to /*o*/ but shorter.

1. 1. 2. Vowel Contrasts

píh 'to fill holes'	*pih* 'a poison'	*piah* 'to wash'
pĕ́h 'flipping of fish'	*pĕh* 'to pick up'	*tĕah* 'a level yard'
tâmpê̆h 'to flap wings'	*tupêh* 'a fence'	
péh 'to gather net'	*peh* 'snap of trap'	
pứh 'a generation'	*hưh* 'so there!'	*chưah* 'a name'
pơ̆́h 'to speak'	*hơ̆h* 'excl., tired'	*pơ̆ah* 'to rain in'
tâmpâh 'in formation'	*pơh* 'roomy'	
páh 'to slap'	*pah* 'spacious'	
púh 'to hit'	*huh* 'excl., thirsty'	*puah* 'to make traps'
pŏ́h 'to divide'	*pŏh* 'side of fish'	*pŏah* 'white'
pốh 'to open'	*pôh* 'deer call'	
póh 'night fishing'	*poh* 'dead center'	

Not all of the thirty vowel contrasts occur in every environment. Short vowels cannot occur in open syllables. *í* and *ĕ́* share *Í* except before *h* and *q*. Mid-lax and low front vowels *ê*, *e* cannot occur with final palatals *ch*, *s*, *nh*, *y*, *j*. Back vowels *u*, *ŏ*, *ô*, *o* cannot occur with final *b* or *w*.

1. 2. Consonant phonemes The six categories of consonants in figure 2 are arranged according to phonetic criteria. In section 2.3 (fig. 3) they are arranged according to distributional criteria.

	bilabial	*alveolar*	*alveopalatal*	*velar*	*glottal*
vl. stops :	*p*	*t*	*ch*	*k*	*q*
vd. stops :	*b*	*d*	*j*		
nasals :	*m*	*n*	*nh*	*ng*	
liquids :		*r/l*			
fricatives :			*s*		*h*
semivowels :	*w*		*y*		

Figure 2. Phonetic Chart of Consonant Phonemes

1.2.1. Problems of Interpretation

1.2.1.1. Word-final [$w^{ʔ}$] and [$y^{ʔ}$] are interpreted as complex unit phonemes rather than as sequences of semivowel plus glottal stop because word-final position can be filled only by single consonants.

[$w^{ʔ}$] and [$y^{ʔ}$] are further interpreted as word-final allophones of voiced stops /*b*,*j*/, for two reasons. First, they are phonetically similar. [^{ʔ}b] and [$w^{ʔ}$] share bilabial and glottal features, and [^{ʔ}j] and [$y^{ʔ}$] share alveopalatal and glottal features. These (and *d*) are the only consonants which have a complex glottal feature. Word-initial allophones are preglottalized while word-final allophones are post-glottalized.

Secondly, not to combine [$w^{ʔ}$] and [$y^{ʔ}$] with voiced stops would result in voiced stops being the only consonants not occurring in word-final position, and [$w^{ʔ}$] and [$y^{ʔ}$] being tha only consonants not occurring in word-initial position. So combining them would seem to be the logical answer.

It would appear that /*d*/ does not have a semivowel possibility which would lend itself to use as a word-final allophone of /*d*/.

1.2.1.2. Aspirated stops are interpreted as clusters of stops *p*, *t*, *k* plus *h* because they are parallel to a pattern of stops *p*, *t*, *k* plus liquids *r*, *l*. Aspirates, like clusters, occur only in main-syllable-initial position; whereas unit consonants can occur also in presyllable-initial and word-final positions. Furthermore, clusters can be divided by morphological infixes and it appears that aspirates do the same. However, when stop plus *h* is divided, the *h* is dropped since it cannot occur in presyllable-final position. *prêh* 'to sweep house' becomes *pârnêh* 'a house broom'; but *khiar* 'to sweep yard' becomes *kaniar* 'a yard broom', losing the *h*.

1.2.2. Consonant Descriptions and Contrasts.

/*p*/ is a simple voiceless bilabial stop [*p*].
p : ph *paq* 'a bundle', *phaq* 'to chisel'; p: b *pár* 'to fly', *bár* 'to guard'; p :w *pi* 'to talk', *wi* 'to have'.

/*t*/ is a simple voiceless alveolar stop [*t*]. t : th *tŏ* 'self', *thŏ* 'a fish trap'; t : ch *táq* 'to work', *cháq* 'trunk'; t : d *túng* 'deaf', *dúng* 'house'.

Secondly, not to combine [*w*ˀ] and [*y*ˀ] with voiced stops would result in voiced stops being the only consonants not occurring in word-final position, and [*w*ˀ] and [*y*ˀ] being tha only consonants not occurring in word-initial position. So combining them would seem to be the logical answer.

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/*w*/ is a voiced bilabial rounded vocoid [*w*]. In syllable-initial position it alternates freely with a slightly fricative allophone [ƀ]. In word-final position it is a non-syllabic vocoid [*w*]. w : p (see /*p*/) ; w : b (see /*b*/).

/*y*/ is a voiced alveopalatal vocoid. Syllable-initial it has a tense allophone [*y*]. Word-medially between vowels it has a tense fricative allophone $\left[\underset{+}{y}\right]$. Word-finally it has a lax non-syllabic allophone [*i*]. *qayoy* $\left[\text{ʔ}a\underset{+}{y}oi\right]$ 'an insect'.

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MON-KHMER STUDIES I

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